Title (en)

CNT-infused fiber as a self shielding wire for enhanced power transmission line

Title (de)

CNT-infundierte Faser als selbstabschirmendes Kabel für eine Übertragungsleitung mit erhöhter Leistung

Title (fr)

Fibre à infusion de CNT comme câble de blindage à auto-alignement pour ligne de transmission de puissance améliorée

Publication

EP 2629595 A2 20130821 (EN)

Application

EP 13168127 A 20110915

Priority

- US 38592310 P 20100923
- US 201113006368 A 20110113
- EP 11827254 A 20110915

Abstract (en)

A wire includes a plurality of carbon nanotube infused fibers in which the infused carbon nanotubes are aligned parallel to the fiber axes. An electromagnetic shield for a wire includes a plurality of carbon nanotube infused fibers, in which the infused carbon nanotubes are aligned radially about the fiber axes. The plurality of carbon nanotube infused fibers are arranged circumferentially about the wire with the fiber axes parallel to the wire. A self-shielded wire includes 1) a wire that includes a plurality of carbon nanotube infused fibers in which the infused carbon nanotubes are aligned parallel to the fiber axes; and 2) an electromagnetic shield that includes a plurality of carbon nanotube infused fibers in which the carbon nanotubes are aligned radially about the fiber axes. The axes of the carbon nanotube infused fibers of the wire and the carbon nanotube infused fibers of the electromagnetic shield share are parallel.

IPC 8 full level

B82Y 30/00 (2011.01); **B82Y 40/00** (2011.01); **D06M 11/74** (2006.01); **H05K 9/00** (2006.01)

CPC (source: EP KR US)

B29C 35/02 (2013.01 - KR); **B82Y 30/00** (2013.01 - EP US); **B82Y 40/00** (2013.01 - EP US); **C01B 32/162** (2017.07 - EP KR US); **C01B 32/164** (2017.07 - EP KR US); **D06M 11/74** (2013.01 - EP KR US); **H01B 1/00** (2013.01 - KR); **H01B 3/004** (2013.01 - KR); **H01B 9/00** (2013.01 - KR); **H01B 13/00** (2013.01 - KR); **H05K 9/009** (2013.01 - KR); **H05K 9/0098** (2013.01 - EP US); D06M 2101/40 (2013.01 - EP US); H01B 5/105 (2013.01 - EP US); Y10T 428/2918 (2015.01 - EP US)

Citation (applicant)

- US 61107309 A 20091102
- US 61110109 A 20091102
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- US 93832810 A 20101102
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- US 2004245088 A1 20041209 - GARDNER SLADE H [US]
- M. S. DRESSELHAUS ET AL.: "Science of Fullerenes and Carbon Nanotubes", 1996, ACADEMIC PRESS, pages: 756 - 760

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

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DOCDB simple family (application)

US 2011051844 W 20110915; AU 2011305751 A 20110915; BR 112012017246 A 20110915; CA 2782976 A 20110915; CN 201180006064 A 20110915; EP 11827254 A 20110915; EP 13168127 A 20110915; JP 2013530197 A 20110915; KR 20127018112 A 20110915; US 201113234100 A 20110915